

LIBRARY
ANNEX
M2



LITTLE NATURE STUDIES

VOLUME I.

• A PRIMER • and •
• A FIRST READER •

From
John Burroughs.



EDITED BY
• MARY • E • BURT •

• GINN & COMPANY •

Cornell University

Library

OF THE

New York State College of Agriculture

Bureau of Nature Study

76 2337

28/6/10

**SCIENCE EDUCATION
CORNELL UNIVERSITY
ITHACA, NEW YORK**

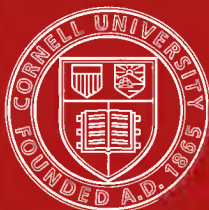
Cornell University Library
QH 48.B97

Little nature studies for little people,



3 1924 001 126 626

mann



Cornell University
Library

The original of this book is in
the Cornell University Library.

There are no known copyright restrictions in
the United States on the use of the text.

<http://www.archive.org/details/cu31924001126626>



JOHN BURROUGHS'S STUDY AT RIVERBY, WEST PARK, N. Y.

LITTLE NATURE STUDIES

FOR

LITTLE PEOPLE



FROM THE ESSAYS OF

JOHN BURROUGHS

WITH AN INTRODUCTION BY

CHARLES DUDLEY WARNER

VOLUME I.

A PRIMER AND A FIRST READER

EDITED BY

MARY E. BURT

AUTHOR OF "LITERARY LANDMARKS," "STORIES FROM PLATO," ETC., ETC.

FORMERLY TEACHER OF LITERATURE, COOK CO. NORMAL SCHOOL

Revised Edition

BOSTON, U.S.A., AND LONDON

PUBLISHED BY GINN & COMPANY

1898

QH 48

B37

v.1

Ac 1 27

COPYRIGHT, 1895
By JOHN BURROUGHS

ALL RIGHTS RESERVED



TO

L. W. B.

WHOSE KINDLY HELP AND SUGGESTIONS TO BOTH
AUTHOR AND EDITOR
HAVE ENDEARED THE WORK
THIS LITTLE VOLUME
IS MUTUALLY
DEDICATED

PREFACE.

THIS book is intended as a primary text-book in Science and Reading. The motive in it is to introduce teacher and pupil to a mutual love for the woods and fields, to the study of animals and plants, to the observation of real things in life, and to the methods of a true naturalist. It should take teacher and pupil out of doors, into the open air, and to the heart of nature. Incidentally it will doubtless lead to the acquisition of the power to read and to a taste for the quiet and elegant literature of a pastoral writer.

M. E. BURT,

Editor.

Thanks are extended to Messrs. Houghton, Mifflin & Co., for such extracts as they have permitted from their copyrighted editions of the Essays of John Burroughs.

PREFACE TO THE REVISED EDITION.



WHEN the first edition of Little Nature Studies was presented to the public many of the best teachers in all parts of the United States were asked to criticise it that the revised edition might meet every demand of the schoolroom. The book was received with great enthusiasm especially by those teachers who are allowed to work in the light of their own intelligence, and those educators whose work is based on pedagogical principles. From schools where phonic drill was an item of greater interest came requests that more notice should be given to diacritical marking. Also that more of the simple lessons should be placed in the front of the book while the longer and harder lessons at the back, should be bound in another cover for the higher grade. These suggestions have been accepted. I have followed Webster's International Dictionary in the diacritical marking and have edited many new lessons from what I remember of conversations with the author rather than from his published works, that the lessons might be as simple as if they were made by a professional manufacturer of first reader sentences.

M. E. BURT,
Editor.

CONTENTS.

PART I.

TOPIC	ESSAY	BOOK	PAGES
INTRODUCTION			xi
A BRAVE MOUSE . {	Talks with Young Ob- servers	<i>Riverby</i>	1-3
THE OBSERVATION OF { NATURE . {		<i>Riverby</i>	3-8
THE WOLF SPIDER		<i>Riverby</i>	10-11
THE FLYING SPIDER .	From a Conversation	<i>Not published</i>	10-13
OPEN EYES AND EARS		<i>Riverby</i>	14-17
ON THE LOOKOUT	A Life of Fear	<i>Riverby</i>	18-19, 21-36
THE SQUIRREL	From a Conversation .	<i>Not published .</i>	20

PART II.

GENTLE ANIMALS	From a Conversation .	<i>Not published . .</i>	39-44
THE APPLE		<i>Winter Sunshine .</i>	45-48
THE COW	Our Rural Divinity	<i>Birds and Poets . .</i>	49
THE APPLE-TREE . {	Bird Life in an Old { Apple-Tree . . . {	<i>Riverby</i>	50-52
BEES . {	An Idyl of the Honey- { Bee	<i>Locusts and Wild Honey</i>	53-60
A MILLION			61
THE SPARROW . {	Love and War among { the Birds	<i>Pepacton .</i>	62
BIRD SONGS	In the Hemlocks .	<i>Wake-Robin</i>	63
WINGS AND FINS		<i>Riverby .</i>	64
A LETTER TO A BOY		<i>Not published elsewhere</i>	65
WEEDS	Notes by the Way	<i>Pepacton</i>	66-68

TOPIC	ESSAY	BOOK	PAGES
THE TROUT	How to go Fishing	<i>Pepacton</i> .	69
CATERPILLARS .	A Snow Storm	<i>Signs and Seasons</i>	70-72
ICE . . . . .	. . . . .	. . . . .	73
SALT	A Salt Breeze	<i>Signs and Seasons</i>	74
DRUMS AND DRUMMERS .	Winter Neighbors	<i>Signs and Seasons</i>	75
LIFE UNDER A STONE .	Notes by the Way . .	<i>Pepacton</i>	77
BUDS	A Spring Relish	<i>Signs and Seasons</i>	78-79
A COLD LUNCH .	Hard Fare . . . . .	. . . . .	80-82
THE SQUIRREL	From another Writer . .	. . . . .	84
APRIL NOTES	From a Conversation . .	. . . . .	85
A MUCK SWAMP	From a Conversation . . .	. . . . .	86
A LETTER, CZAR	From another Writer . . .	. . . . .	87-88
HIBERNATING ANIMALS	Autumn Tides	<i>Winter Sunshine</i> .	92-93

POEMS TO BE MEMORIZED.

LITTLE BIRDIE	<i>Alfred Tennyson</i>	97
PIPPA'S SONG	<i>Robert Browning</i>	98
TO-DAY	<i>Thomas Carlyle</i>	99
THE LITTLE DOG	<i>Mother Goose</i>	100
THE LITTLE PLANT	<i>Kate L. Brown</i>	101
I'LL TRY . . . . .	. . . . .	102
SPEAK GENTLY . . . . .	. . . . .	103
THE PIPER AND THE CHILD .	. . . . .	104
FAITH, HOPE, AND LOVE . .	<i>Schiller</i>	105
SINGLE STANZAS . . . . .	. . . . .	106

SUPPLEMENTARY.

LOVERS OF NATURE	<i>Riverby</i>	107
--------------------------	--------------------------	-----

INTRODUCTION.

I SUPPOSE that no sensible person would plant weeds in a garden, instead of flowers. He would not do it even if you told him that weeds are just as natural as flowers and that Nature is indifferent as to the kind of vegetation with which she clothes the soil. He would say that as he wanted flowers for beauty and for use, he was obliged to discriminate about the vegetation he encouraged in his garden. If you see a dooryard grown up to unsightly weeds, you draw an unfavorable inference as to the character and habits of its owner. In a village, where people talk about each others' affairs, they say he is thriftless, and has no taste, and that his place is a blot upon the street.

It has always seemed strange to me that people should not take as much pains about the minds of their children as they take about their gardens. They allow anything and everything to be sown in the susceptible and fertile soil of the virgin mind. If they do not do it themselves, they permit the school "authorities" to do it. One reason for this negligence is that the weed-seed sellers have got on hand a lot of weed-seed, in fact that they have invested in a costly plant for producing weed-seed, and that there is a profitable and vested right in weed-raising; besides this sort of seed is cheaper and it will grow just as well

and faster in the tender mind. This may be true. But this seed is not cheaper for those who receive it. It is a wearisome task to restore a neglected garden in which the weeds have got the mastery ; and it takes years for the adult mind to hoe out and destroy the false tastes, the vicious growth implanted in childhood, to restore the tone of the enfeebled mind, and to acquire a taste and a power for the cultivation of that which is sweet and natural and beautiful in literature.

The only way is to begin right, to follow the rule of experience in the matter of diet, by giving the mind the most wholesome and nutritious food it can assimilate ! For a generation and more we have been doing exactly the opposite of this. Instead of literature we have been pouring a flood of reading slops into the public schools, and the product of these schools shows it in the sort of reading it likes and in its lack of discrimination or discernment of good literature.

This futile education has led the young minds just as far from the love and appreciation of nature as from literature. It cultivates neither the power of observation of nature, nor, what is more important, the knowledge of what to observe. It neither stimulates nor instructs. Thank Heaven, a reform has begun, and it is sure to be radical when the public understands what it is. Such books as this *Little Nature Studies* need no commendation to people who have given any thought to what the education of people should be, and who know that it is just as easy to sow good seed in their minds as poor seed.

The editor has been very fortunate in finding such an author as John Burroughs to illustrate her method and bring about the desired reform. His unaffected simplicity, which has captivated

his adult readers, appeals to children. The purity of his style is a plate glass through which we see nature without the least distortion. His expression is as lucid as his knowledge of nature is exact. He never patronizes nature, or uses her for word-painting and impressionist effects ; he never poses before her or asks her to pose before him in order that he may manufacture wearisome descriptions of her aspects and moods. He simply lives with her, and makes us like to live with her in natural and enjoyable relations. And out of this unconstrained life comes a pure stream of joyous literature, as winning to the child who welcomes the morning, the birds, and the dew and the flowers, as to the old man who sits in his doorway to watch with placid enjoyment the setting sun. What a generation that would be which should see nature with eyes like his, and be in love with a literature that is virile and pure and without affectation !

CHARLES DUDLEY WARNER.

HARTFORD, Jan. 1, 1896.

PHONIC SYSTEM USED IN LITTLE NATURE STUDIES.



ā, long a, āte.	ī, wave i, bīrd.
ä, Italian a, äh.	î, unaccented long i, bî-ol'-ogy.
ạ, broad a, ằl.	
ă, short a, ắt.	ȳ, long y, mȳ.
	ÿ, short y, pitÿ.
à, short Italian a, àsk.	ȳ, wave y, mȳrtle.
ā, unaccented long a, pref'āce.	ÿ, long e sound of y, ÿës.
a, short o sound of a, whạt.	ÿ, unaccented long y, hÿ-e'-na.
ē, long e, mē.	ū, long u (or ē ōō), ūse.
ě, short e, sět.	ű, short u, űp.
ē, wave e before r, hēr.	ų, short soft u, fűll.
ē, unaccented long e, ēmit.	ű, long soft u (or ē ōō), rűde.
e, long a sound of e, eigh <u>t</u> , pre <u>y</u> .	û, circumflex u. ûrn.
ê, circumflex e, whêre.	ũ, unaccented long u, na'-tũre.
ō, long o, nōte.	w, ōō, wet (ōō-ě't).
ố, short o, nốt.	
ô, broad o, nôt.	ç, soft c, çipher.
o, short soft o, wỏf.	ƥ, hard c (the Greek c or k sound), ƥry.
ơ, long soft o, dơ.	
ô, short u sound of o, côme.	ġ, soft g (or j sound of g), large.
ồ, unaccented long o, ômit.	ġ, hard g, ġo.
ōō, long double o, mōōn.	
ồồ, short double o, tồók.	ñ, the ng sound of n, un <u>ç</u> le.
ĩ, long i, ice.	s, the z sound of s, hi <u>s</u> .
ỉ, short i, ỉt.	
ĩ, long e sound of i, or Italian i, machine.	th, soft th, bat <u>h</u> e.

PART I.



A PRIMER.

LESSON I.

(The teacher's page.)

The unit of thinking is an entire thought and its expression is an entire sentence.

— FARNHAM.

A BRAVE MOUSE.

The teacher will read or tell the story to the pupils and hold a conversation with them about it.

I MET a little mouse in my travels the other day that interested me. He was on his travels also, and we met in the middle of a mountain lake. I was casting my fly there when I saw just sketched or etched upon the glassy surface a delicate V-shaped figure, the point of which reached about the middle of the lake, while the two sides as they diverged faded out toward the shore. I saw the point of this V was being slowly pushed towards the opposite shore. I drew near in my boat, and beheld a little mouse swimming vigorously for the opposite shore. His little legs appeared like swiftly revolving wheels beneath him. As I came near he dived under the water to escape me, but came up again like a cork and just as quickly. It was laughable to see him repeatedly duck beneath the surface and pop back again in a twinkling. He could not keep under water more than a second or two. Presently I reached him my oar when he ran up it and into the palm of my hand, where he sat for some time and arranged his fur and warmed himself. He did not show the slightest fear. It was probably the first time he had ever shaken hands with a human being. He was what we call a meadow mouse, but he had doubtless lived all his life in the woods and was strangely unsophisticated. How his little round eyes did shine and how he sniffed me to find out if I was more dangerous than I appeared to his sight.

After a while I put him down in the bottom of the boat and resumed my fishing. But it was not long before he became very restless and evidently wanted to go about his business. He would climb up to the edge of the boat and peer down into the water. Finally he could brook the delay no longer and plunged boldly overboard, but he had either changed his mind or lost his reckoning, for he started back in the direction he had come and the last I saw of him he was a mere speck vanishing in the shadows near the other shore.

LESSON I.

(The child's page.)

A BRAVE MOUSE.



I met
a little mouse.

NOTE TO THE TEACHER.

Let the child tell the story read from the preceding page. Put one or two of his own sentences on the blackboard and let him read them.

He was in the middle of a lake. He ran up my oar.

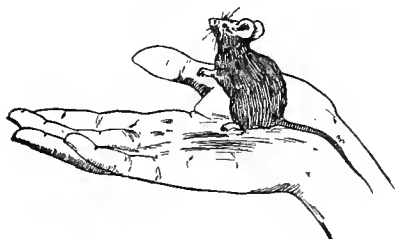
The real point in the lesson is the sympathy of the man for the timid, helpless little creature. The object of the lesson is to develop the child's curiosity in regard to the habits of animals and a spirit of kindness toward them.

This should not be lost in an anxiety to get words. One word a day is all that a child can be expected to get.

LESSON II.

(The child's page.)

A BRAVE MOUSE.



The mouse sat
on my hand.

PEDAGOGICAL PRINCIPLES IN TEACHING READING.

A GREAT deal of delusion exists in the minds of people on the subject of observing nature. Observation of nature is mainly a matter of sympathy and attraction. One must love nature, then observation is easy, and what is more, it is joyous. Things come to you. You are in vital connection with them. You must have the bird in your heart before you can find it in the bush, and when you once have it in your heart, the finding of it in the bush is a secondary matter.

THE AUTHOR.

JUST as great a delusion exists in regard to the foundation work in reading. It has been assumed for years that a child can learn to read more easily by making the chief motive that of word-getting. When the child's mind is aglow with ideas the words come as a secondary matter. The child is then "in vital connection" with the words.

EDITOR.

LESSON III.

A BRAVE MOUSE.



A small mouse.



A large mouse.

I see a small mouse
and a large mouse.

CONVERSATION.

TEACHER. I wonder if this large mouse is the mouse that was swimming in the lake. The writer said he found a little field mouse in her nest out in the field with a lot of young ones. She fled from the nest in great fear, but came back and carried off one at a time by the neck, as a cat carries off her kittens. Let the children tell what they have seen of the same sort of action. Put one or two of their sentences on the blackboard.

LESSON IV.

THE BRAVE MOUSE AT HOME.

I see

a large mouse

and two small mice.

CONVERSATION.

Tell the story in the picture. Let us put on the blackboard all the words you have learned. One. Two. Mouse. Mice. Large. Small. Sat. Man. Introduce the word house with mouse on the blackboard, also all, call, ball, etc., with the word small. How does the little field mouse seem to live when at home?

LESSON V

ONE AND ANOTHER.

One Bee.



Another Bee.



I see two Bees.

CONVERSATION.

Has the bee a head? Wings? How many? How many has a bird? How many legs? Parts of the body? Compare with the mouse.

Lesson in word-building on the blackboard.

ăn, m-an, c-an. ăt, s-at, m-at.
ăn, an-d, h-an-d. s-ee, b-ee, b-ee-s.
ăn, an-other.

LESSON VI.

ONE AND ANOTHER.

One
flower.

Another
flower.

I see two flowers.

CONVERSATION.

Have you seen these flowers growing? Do they grow in your garden? They are both called violets. One is called the dog-tooth violet. How are they alike? How are they different? Let the child discover the blossom, leaf, root, difference between one flower and the other, difference in leaves, roots. Let each child tell his own little story about the flower he loves best. There should always be some simple flower growing in the school-room. It is wonderful the pleasure and knowledge one flower will give. I have had the good fortune to watch a class for a year whose best flower study was a cyclamen. It proved to be the basis of many reading lessons.

LESSON VII.

ONE AND TWO.

One

flower.

Another

flower.

I see one bee
and
Two flowers.

CONVERSATION.

Have you seen these flowers growing? Are they like the flowers in the lesson before this? In what way are they alike? Different? What has the bee to do with the flower? What does it want of the flower? What does the flower want of the bee? (See Gibson's Essays.) Let the child discover the petals of the apple-blossom and compare with those of the spring beauty. Put short sentences on the blackboard.

LESSON VIII.

REVIEW.

RECOGNITION OF SENTENCES AND IDEAS.

1. A mouse sat on my hand.
 2. I saw a large mouse and a small mouse.
 3. I saw a large mouse and two small mice.
 4. I saw one bee and another bee.
 5. I saw two bees.
 6. I saw two flowers.
 7. I saw one flower and another flower.
 8. I saw one bee and two flowers.
-

RECOGNITION OF WORDS.

mouse	hand	small	one	my
large	flower	two	and	bees
bee	a	another	on	sat

WORD-BUILDING.

āt	ān	ānd	ōther	all
s-at	m-an	h-and	m-other	sm-all
r-at	man's	b-and	an-other	b-all

LESSON IX.

(The teacher's page.)

A WOLF IN SPIDER'S CLOTHING.

I ONCE saw a spider, probably the wolf spider, kill a young toad. When perceived he was dragging the toad along over the plowed ground. The toad was of course small, yet a good deal larger than the spider. The toad was alive, but died very soon after when the spider left him, alarmed no doubt by my presence, and hid under a clod. There is a spider in South America that kills small birds, and here is one at home that kills small toads. This wolf spider is a very savage creature. It spins no web by which to catch its game, but prowls about like a wolf and pounces upon its prey where it finds it. If you encounter one in your walk or confront him with a stick or the point of your cane, he is instantly up in an attitude of defense or will leap upon your stick and sink his poisonous fangs into it.

If I have seen an insect kill a toad, I have seen the little piping frog in the woods swallow an insect, the pretty green tree cricket; and it was a slow and laborious task for the little frog, too.

THE FLYING SPIDER.

THE flying spider climbs upon a post or tree and spins a little thread which floats off upon the air. As soon as he makes enough of it to carry him he floats off with it on the breeze and in that way he travels over the landscape by wings of his own making. When the end of his web catches against something, he sits down and spins again. I have had one sit on the end of my finger and spin its thread and float away like a spirit.

CONVERSATION.

Let the stories be followed by a conversation on spiders and their work and a comparison of their habits with those of the wolf or other animals. If possible let the children examine the nest of a trap-door spider. The pupils can tell many things they have observed spiders doing. We should learn to study carefully the habits of poisonous insects, for they have their use and are as interesting as other creatures.

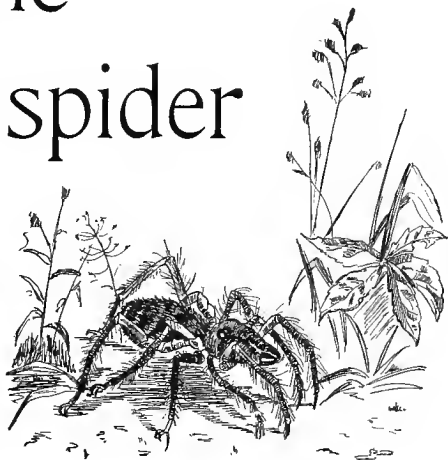
LESSON X.

(The child's page.)

A WOLF SPIDER.

web spins spider no

The
wolf spider



spins no web.

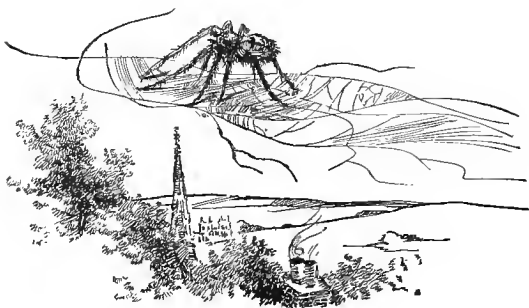
The wolf spider spins no web.

LESSON XI.

(The child's page.)

ANOTHER SPIDER.

fly flying flies thread



The flying spider
spins a thread.

The flying spider spins a thread.

WORD-BUILDING.

ȳ, m-y, fl-y, fl-y-ing. ȳ, r-read, th-r-read.

LESSON XII.

ANOTHER SPIDER.

The flying spider spins a thread.

He flies away
on it.

LESSON IN WORD-BUILDING ON THE BLACKBOARD.

ĩ	ĩ	ō	ě
it	in	n-o	web
s-it	p-in	s-o	met
l-it-tle	sp-in	g-o	pet

LESSON XIII.

(The teacher's page.)

OPEN EARS AND EYES.

I AM often asked: "How do you observe nature?"

I always reply: "By simply keeping my eyes and ears open."

These organs, I find, are always on the alert and take note of what is going on without effort. A new sound at once arrests my attention; a live object is at once seized upon by my eye.

While getting on the train this morning I saw an eagle flying heavily northward. It is doubtful if any one else of the eight or ten people who boarded the train at the same time saw it.

As I got off the train in town I saw a little hawk flying over. As I passed up the street a few moments later I saw the hawk sitting on the cross on the top of a church steeple. Hawks come to town these winter days after the sparrows, and now and then they take one. I saw one swoop suddenly over a high-board fence one day and seize one of a flock of sparrows that were feeding in the middle of the street. As he made off with his game, the flock followed him a few rods and alighted in a pear tree in a garden, and looked in the direction their comrade had disappeared, and chirped and called disconsolately. The hawk came as if he had all the while been watching his opportunity like a cat. He swooped over the fence, seized his game, and was gone in a twinkling.

CONVERSATION.

What have you seen wild birds do? What can you see in the picture on the next page? Are our eyes always open when they look as if they were open? How shall we see as naturalists do? Which is better, what we find in books or what we find out for ourselves? Let each child tell something that he has himself seen among birds.

LESSON XIV.

(The child's page.)

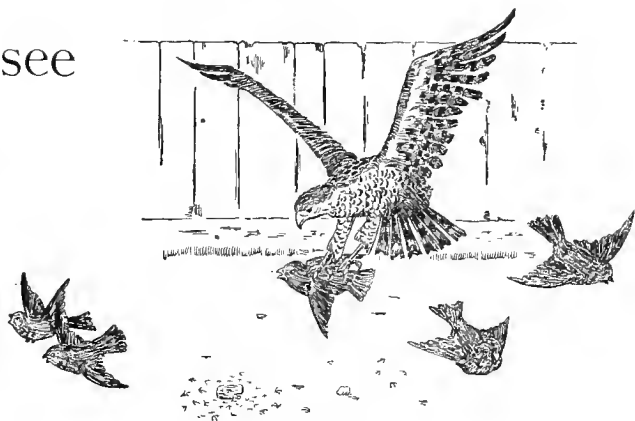
OPEN EYES.

we see

keep

open

eyes



We can see
if we keep
our eyes open.

one, two, three, four, five, little sparrows.

Lesson in word-building on the blackboard.

ē, w-ē, m-ē, b-ē, s-ēē, k-ēē-p, thr-ēē.

Lesson in counting.

one, two, three, four, five.

LESSON XV.

OPEN EYES.

see	saw	eyes	open	keep
one	two	three	four	five

I saw
a hawk.



I heard
a sparrow cry.

The hawk came down like a cat.

CONVERSATION.

What bird have you seen that looks like this? Why his beak is hooked. Why his eye is so sharp. Why he comes down like a cat.

Word-building and review of words on the blackboard.

c like k, c-at, c-ry, c-ame.
ă, ă-t, s-ă-t, c-ă-t, b-ă-t, f-ă-t, m-ă-t.

LESSON XVI.

REVIEW.

RECOGNITION OF SENTENCES.

1. The wolf-spider spins no web.
 2. I saw a hawk.
 3. I heard a sparrow cry.
 4. We can see if we keep our eyes open.
 5. The hawk comes down like a cat.
-

RECOGNITION OF PHRASES.

one flower.	two flowers.
my hand.	open eyes.
another bee.	a spider's web.
spins no web.	a small mouse.
large and small.	one and another.

WORD-MAKING.

sp-ĭn	eĭe	ăn	s-ēē	s-aw
sp-in-s	eye-s	c-an	b-ee	h-aw-k

RECOGNITION OF WORDS.

keep	eyes	another	sparrow	web
flower	spider	can	hawk	spin

LESSON XVII.

(The teacher's page.)

ON THE LOOKOUT.

AS I sat looking from my window the other morning upon a red squirrel gathering hickory nuts from a small hickory and storing them up in his den in the bank, I was forcibly reminded of the state of constant fear and apprehension in which the wild creatures live, and I tried to picture to myself what life would be to me, or to any of us, hedged about by so many dangers, real or imaginary.

The squirrel would shoot up the tree, making only a brown streak from the bottom to the top; would seize his nut and rush down again in the most precipitate manner. Half way to his den, which was not over three rods distant, he would rush up the trunk of another tree for a few yards to make an observation. No danger being near, he would dive into his den and reappear again in a twinkling.

Returning for another nut, he would mount the second tree again for another observation. Satisfied that the coast was clear, he would spin along the top of the ground to the tree that bore the nuts, shoot up it as before, seize the fruit, and then back again to his retreat.

Never did he fail during the half hour or more that I watched him to take an observation on his way both to and from his nest. It was "snatch and run" with him. Something seemed to say to him all the time: "Look out!" "The cat!" "The hawk!" "The owl!" "The boy with the gun!"

CONVERSATION.

The main point of the story, kindness to animals. Why animals are on the lookout. Has the squirrel a right to his food? Has the boy a right to shoot the squirrel? How to tame animals so that they will not be afraid. See "Cheating the Squirrel" in *Pepacton*; also "The Flying Squirrel."

LESSON XVIII.

ON THE LOOKOUT.

cat hawk gun boy
look with out says

The squirrel says,

Look out!

The cat!

The hawk!

The boy

with the gun!



LESSON XIX.

(The teacher's page.)

ON THE LOOKOUT.

I HAVE a squirrel that lives in my study wall. He is on the lookout for the apples which I put for the little rabbit that lives under the floor and he often gets them. My squirrel has tapped a maple tree for the sap. He licks the sap with his tongue. One day he jumped into the snow on the roof. The snow gave way and he fell with a large mass of it to the ground. He seemed to enjoy it and sprang out of it. He darted up the tree in high spirits.

NOTE. As I am working on this page a little flying squirrel is running around my room. He steals my jam, spreads himself out flat like a little mat and takes a nap on my neck; he yawns so that I can see down his throat, jumps upon me and runs all over me; he sits on my hand to eat pie or cake or dates of which he is very fond; he squeals and pretends to bite a little if I try to catch him. His feet are as pink and human as a baby's. He sleeps in a little fur pocket. He laps water and milk like a kitten.

I saw a small boy going out of the school-room one day. He stopped to apologize by saying that he had been in to kiss the squirrel. It is the object of this book to tell the truth and call out a spirit of truthful observation while teaching tenderness toward living things.

EDITOR.

BLACKBOARD LESSON.

What does the squirrel do? He taps a tree. He laps sap. He sits on my hand. He loves apples. He takes a nap. Let the children make their own sentences and read them from the blackboard.

Word-building.

Short a, ă.

ăp, l-ăp, s-ăp, t-ăp, n-ăp, ăp-ples.

LESSON XX.

(The child's page.)

ON THE LOOKOUT.

out on am look

My little flying squirrel says,

I am
on the
lookout
for apples.



WORD-BUILDING.

ô, ô-r, f-ô-r, n-ô-r.

LESSON XXI.

(The teacher's page.)

ON THE LOOKOUT.

(Continued.)

IT was a bleak December morning; the first fine flakes of a cold, driving snow-storm were just beginning to sift down, and the squirrel was eager to finish harvesting his nuts in time. It was quite touching to see how hurried and anxious and nervous he was. I felt like going out and lending a hand. The nuts were small, poor pignuts, and I thought of all the gnawing he would have to do to get at the scanty meat they held. My little boy took pity on a squirrel that lived in the wall near the gate, and cracked the nuts for him and put them upon a small board shelf in the tree, where he could sit and eat them at his ease.

The red squirrel is not so provident as the chipmunk. He scorns to lay up stores irregularly by fits and starts; he never has enough put up to carry him over the winter; hence he is more or less active all the season. Long before the December snow the chipmunk has for days been making hourly trips to his den with full pockets of nuts or corn or buckwheat, till his bin holds enough to carry him through to April. He need not, and, I believe, does not, set foot out of doors during the whole winter. But the red squirrel trusts more to luck.

As alert and watchful as the red squirrel is, he is frequently caught by the cat. My Nig, as black as ebony, knows well the taste of his flesh. I have known him to be caught by the black snake and successfully swallowed. The snake, no doubt, lay in ambush for him.

CONVERSATION.

Which is on the lookout, Nig or Red? Are both on the lookout? Let the children tell what they have observed of squirrels and compare their observations with those of the author.

NIG AND RED.

gate	near	wall	Nig
black	cat	Red	lived

My cat, Nig,
is black.



Red lived in a wall
near the gate.

Red is on the lookout.

LESSON XXIII.

ON THE LOOKOUT.

(The teacher's page.)

THIS fear, this ever-present source of danger of the wild creatures, we know little about. Probably the only person in the civilized countries who is no better off than the animals in this respect, is the Czar of Russia. He would not even dare gather nuts as openly as my squirrel. A blacker and more terrible cat than Nig would be lying in wait for him, and would make a meal of him. The early settlers in this country must have experienced something of this dread of apprehension from the Indians. Many African tribes now live in the same state of constant fear of the slave-catchers or of other hostile tribes. Our ancestors, back in prehistoric times, or, back of that, in geologic times, must have known fear as a constant feeling. Hence the prominence of fear in infants and children when compared with the youth or the grown person. Babies are nearly always afraid of strangers.

In the domestic animals also, fear is much more active in the young than in the old. Nearly every farm boy has seen a calf but a day or two old, which its mother has secreted in the woods or in a remote field, charge upon him furiously with a wild bleat when first discovered. After this first ebullition of fear it usually settles down into the tame humdrum of its bovine elders.

CONVERSATION.

How people lived in the early ages. Cave-dwellers. Why people are not afraid, like animals. How people can protect themselves through intelligence. The necessity of a spirit of kindness between people, lest they be in the same condition with the irrational animals. (See "Stories from Plato," Ginn & Co.)

How horses are taught to be not afraid. Why the calf runs at the boy. The way to destroy fear is to face danger. Courage.

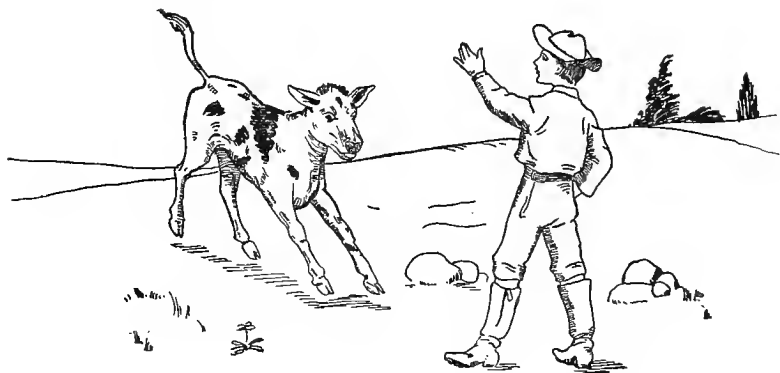
NOTE. This page is not necessarily one to read to the child, since it deals only with the predatory instinct in animals. Nevertheless, by way of contrast it affords abundant suggestion for the teacher.

LESSON XXIV.

ON THE LOOKOUT.

which afraid boy runs calf

The calf



runs at the boy.

Which is afraid?

LESSON XXV.

ON THE LOOKOUT.

(The teacher's page.)

ETERNAL vigilance is the price of life with most of the wild creatures. There is only one among them whose wildness I cannot understand, and that is the common water turtle. Why is this creature so fearful? What are its enemies? I know of nothing that preys upon it. Yet, see how watchful and suspicious these turtles are as they sun themselves upon a log or a rock. Before you are fairly in gun-shot of them they slide down into the water and are gone.

The land turtle, or terrapin, on the other hand, shows scarcely a trace of fear. He will, indeed, pause in his walk when you are very near him, but he will not retreat into his shell till you have poked him with your foot or your cane. He appears to have no enemies, but the little spotted water turtle is as shy as if he were the delicate tid-bit that every creature is searching for. I did once find one which a fox had dug out of the mud in winter and carried a few rods and dropped on the snow, as if he had found he had no use for it.

One can understand the fearlessness of the skunk. Nearly every creature but the farm dog yields to him the right of way. All dread his terrible weapon. If you meet one in your walk in the twilight fields, the chances are that you will turn out for him, not he for you. He may even pursue you, just for the fun of seeing you run. He comes waltzing toward you, apparently, in the most hilarious spirits.

CONVERSATION.

Compare the squirrel with the turtle. There is a lady who has a squirrel and one of its teeth has grown very long. Why? Is it best to crack nuts for the squirrel? How does the squirrel keep his teeth short and sharp?

Short sentences on the blackboard.

The turtle suns himself on a log. The squirrel has a bushy tail. The turtle's shell is his box. The boy is on a box.

LESSON XXVI.

ON THE LOOKOUT.

(Continued.)

My
little
boy
took pity
on a squirrel,
and cracked the nuts
for him.



He put them on a shelf in the tree where
he could sit and eat them at his ease.

LESSON XXVII.

ON THE LOOKOUT.

(The teacher's page.)

THE fox is a very wild and suspicious creature, but, curiously enough, when you suddenly come face to face with him, when he is held by a trap or driven by the hound, his expression is not that of fear, but shame and guilt. He seems to diminish in size and to be overwhelmed with humiliation. Does he know himself to be an old thief, and is that the reason for his embarrassment? The fox has no enemies but man, and when he is fairly outwitted he looks the shame he evidently feels.

In the heart of the rabbit fear constantly abides. Her eyes are always open wide. She can see back and front and on all sides equal to a bird. The fox is after her, the owls are after her, the gunners are after her, and she has no defense but her speed. She always keeps well to cover. The northern hare keeps in the thickest brush. If the hare or rabbit crosses a broad open exposure, it does so hurriedly, like a mouse when it crosses the road. The mouse is liable to be pounced upon by a hawk, and the hare or rabbit by the snowy owl, or else the great horned owl.

A friend of mine was following one morning a fresh rabbit track through an open field. Suddenly the track came to an end, as if the creature had taken wings—as it had after an unpleasant fashion. There, on either side of its last foot imprint, were several parallel lines in the snow, made by the wings of the great owl that had swooped down and carried it off. What a little tragedy was seen written there upon the white, even surface of the field!

The rabbit has not much wit. I once, when a boy, saw one that had been recently caught, liberated in an open field in the presence of a dog that was being held a few yards away. But the poor thing lost all presence of mind and was quickly caught by the clumsy dog.

NOTE. — Madame Ragozin tells a quaint story of a pet turtle which she had in Italy. It would come to her when she called it by name and would climb the stairs to get to her room. It hid away in the fall where she could not find it and came back in the spring. She never could discover its hiding place.

LESSON XXVIII.

LIFE IN A BOX.

box	in	mud	out
fox	live	dug	found

I found
a box turtle.

A fox had
dug him

out of the mud.

When a box turtle is afraid
he hides in his box.

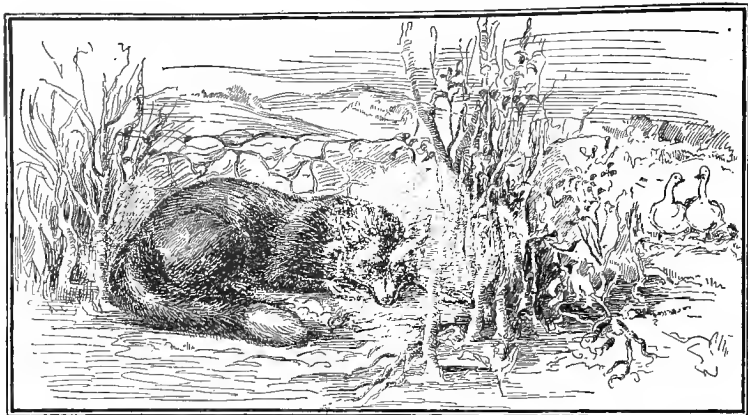


CONVERSATION.

Creatures that live in shells or boxes. The oyster, clam, crab, snail. If possible let the children have a turtle to examine. Perhaps there is no other creature more interesting to keep as a study in the school-room. I have seen a box-turtle kept for weeks. He grew so tame that he would eat meat from my hand and he contentedly strolled about the school-room to the delight of the pupils. He would bury himself in the earth under the roots of flowers in a flower-box, keeping an eye out to see what was going on. I have seen him climb up the window curtain and his attention was always gained by the organ-grinder in the street or when the boys whistled at him. He had a head and beak like an eagle.

LESSON XXIX.

THE FOX.



wild why thief know ashamed
dug mud left snow looks

A fox dug a turtle out of the mud.

He left the turtle on the snow.

Why? The fox is wild.

He knows that he is a thief and
so he looks ashamed.

Is the fox really a thief? Does he really look ashamed? Sensitiveness of animals. Their anxiety to be well thought of. Habits of the fox.

Lesson in word-building.

ōx, fōx, bōx.

ŭ, mŭd, dŭg.

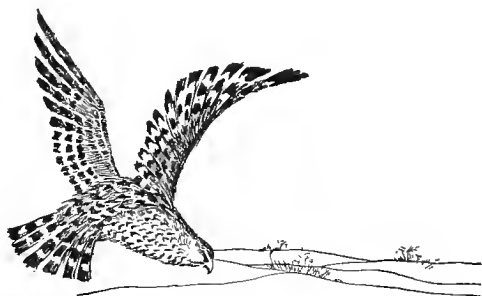
ō, snōw, knōw, sō.

LESSON XXX.

THE RABBIT.

hawks owls safe rabbit color
fox gunners life after helps

The rabbit
has
a life of fear.



The hawk is
after her.



The fox is after her.

The owls are after her.

The gunners are after her.

Her color helps to keep her safe.

CONVERSATION.

Imagination. Why children are afraid. Courage. How to cultivate courage. What different animals do to keep themselves safe. Make the lesson turn on the kindness of the great power that protects.

LESSON XXXI.



ON THE LOOKOUT

(Continued.)

I SAW the same experiment tried with a red squirrel with quite opposite results.

The boy who had caught the squirrel in his wire trap had a very bright and nimble dog about the size of a fox that seemed to be very sure he could catch a red squirrel under any circumstances if only the trees were out of the way. So the boy went to the middle of an open field with his caged squirrel, the dog, who seemed to know what was up, dancing and jumping about him. It was midwinter; the snow had a firm crust and held boy and dog alike. The dog was drawn back a few yards and the squirrel liberated. Then began one of the most exciting races I have witnessed for a long time. The squirrel had all his wits about him and kept them ready for instant use. He did not show the slightest confusion. He was no match for the dog in fair running, and he discovered this fact in less than three seconds; he must win, if at all, by strategy. Not a straight course for the nearest tree, but a zigzag course, yea, a double or treble zigzag course. Every instant the dog was sure the squirrel was his, and every instant he was disappointed. It was incredible and bewildering to him. The squirrel dodged this way and that. The dog looked astonished and vexed. Then the squirrel issued from between his hind legs, and made three jumps toward the woods before he was discovered.

It was evident the squirrel would win. The dog seemed to redouble his efforts. He would overshoot the game or shoot by it to the right or left. The squirrel was the smaller craft and could out-tack him easily. One more leap and the squirrel was up a tree, and the dog was overwhelmed with confusion and disgust.

He could not believe his senses. "Not catch a squirrel in such a field as that? Go to, I will have him yet!" and he bounds up the tree as high as one's head, and then bites the bark of it in his anger and chagrin.

The boy says his dog has never bragged since about catching red squirrels "if only the trees were out of reach"!

CONVERSATION.

The cleverness of the squirrel. His agility. His power to climb.

NOTE. Children should be taught to watch animals in action but not to experiment with them where the creatures may get the worst of it. The experiment with sweet apples (page 20) is typical of the kind of experiments in which children should be encouraged.

REVIEW.

WORDS AT SIGHT.

ā	ē	ī	ō	ȳ
gate	he	mice	no	my
afraid	we	five	home	why
came	the	like	open	
		spider	snow	ŭ
ă	ēē	wild	know	run
at	bee	life		runs
cat	see		ō	mud
sat	tree	ĩ	on	dug
an	three	in	ox	nut
man	keep	spin	box	nuts
man's	ě	lived	fox	gun
and	red	is		gunners
hand	web	his	a	
after	help	it	all	ou
rabbit	ēr	sit	small	out
	her	little	hall	mouse
oo		pity	ball	house
look	ä	if	call	
book	are	Nig	fall	oy
took	large			boy

LESSON XXXIII.

THE RACE.

catch have go will get
that him not squirrel yet

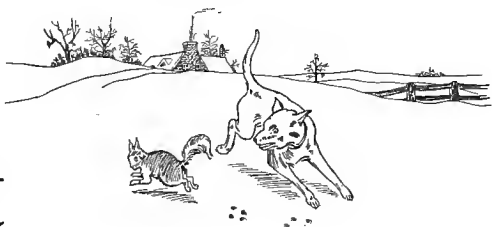
Can I

not

catch that squirrel?

Go to!

I will have him yet.



CONVERSATION.

Rapidity with which animals move, — carrier pigeons fly, squirrels run, etc. Alertness of animals. Which was better, to race with the squirrel as did the dog or to let him alone in the study wall and see what he would do if left alone?

LESSON XXXIV.

THE CAT.



Bun. Nig. Red.

Nig is black as ink.

She knows the taste
of the squirrel.

REVIEW.

The illustration above was done by a young boy. Let the children practice drawing from life and making silhouettes. Review on blackboard the words contained in all the lessons on this essay.

Once Nig
saw a large turtle..
Her fur stood up.
She hit him
with her paw..
The turtle hid
in the mud..
Then she went to sleep.

PART II.

A FIRST READER.

Bureau Nature Study,

CORNELL UNIVERSITY,

Ithaca, N.

LESSON XXXV.

(The teacher's page.)



SHORT STORIES ABOUT GENTLE ANIMALS.

I ALWAYS called Lark "the dog of the gentle heart." He did not like to give pain. If I looked sternly at him he would throw himself on his back and up would go his paws. "Oh, master, what have I done to offend you?" he would seem to say. He once went with me on a trip. He sat beside me on the seat of the wagon. There he was very bold. He called out to all the other dogs to clear the way. But when he was on the ground he was very friendly and if the other dogs came at him, he ran under the horses where he was safe.

MY cat Nig could take care of herself. When we went away from home she lived in the barn. She did not eat hay. Our man found her sitting on the back of the horse to keep warm when it was very cold. The horse seemed to be pleased with her company. When we came back she was always there to welcome us. She took her place under the stove or else she would curl up against the warm shaggy body of the dog.

MY horse Prince likes to put his face by mine. He thinks I have a sweet apple for him. He loves the taste of snow. In the spring he loves the taste of the soil. He eats the ground as if it were cake.

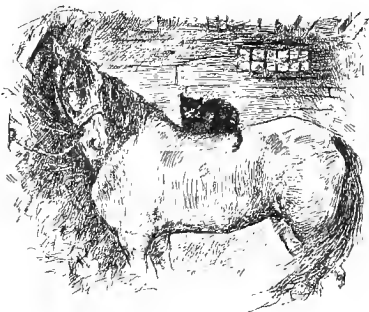
THE rabbit that lives under my study floor does not go out into the cold winter night when he can find the sweet apples by his door. He feels safe under there. No dog, no cat, no fox, no owl can reach him there.

LESSON XXXVI.

THE CAT AND THE HORSE.

home on we place up
stove of she came under

Nig sat
on the
back of the horse.



When we came home,
she took her place under the stove.

CONVERSATION.

The cat. Her covering, food, weapons of defense, use in the destruction of vermin, habits, power of caring for herself and of seeing in the dark.

LESSON XXXVII.

MY DOG LARK.

dog	call	eat	with	once
dogs	called	seat	trip	there

My dog Lark

once went with me

on a trip.



He sat on the seat with me.

There he was bold.

He called out to the other dogs,

“Clear the way!”

LESSON IN WORD-BUILDING.

ärk	all	ōld	ēar
l-ark	c-all	b-old	f-ear
b-ark	c-all-ed	c-old	cl-ear

LESSON XXXVIII.

MY HORSE PRINCE.

mine	face	snow	think	horse
likes	taste	Prince	thinks	loves



My horse Prince,
likes to put his face
by mine.

He thinks I have
a sweet apple for him.

He loves the taste of snow.

CONVERSATION.

The horse. His friendliness. Use. Habits. Parts of body compared with those of other animals.

LESSON XXXIX.

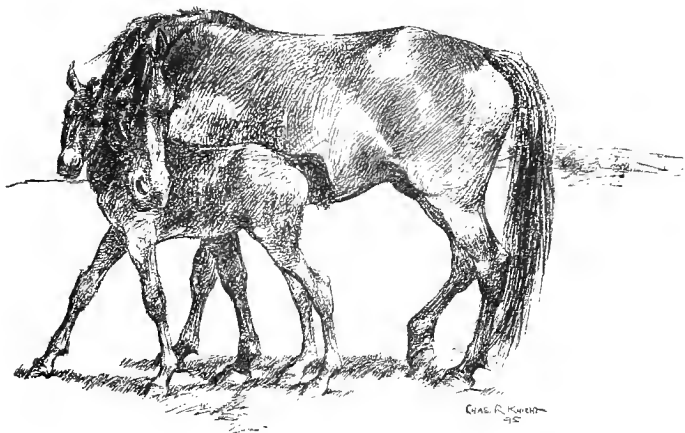
PET AND HER COLT.

go
goes
colt

other
mother
loves

against
friend
when

face
race
brace



The little colt loves to go to the field
with his mother.

He has no other friend.

He loves to run by her side.

When she goes to work he gets in her way.

He loves to brace himself against her.

CONVERSATION.

The colt compared with the horse. His long, stiff legs, large joints, short mane. His hoof compared with that of the cow. Toe-walkers. The affection of the horse. How she expresses her fondness for her colt. The sagacity of horses. Attachment to people.

LESSON XL.

BUN AND I

door	live	lit	rabbit	under
floor	lives	little	apple	there



A little rabbit

lives under
my study floor.

He finds sweet
apples by his door.

He feels safe under there.

No dog, no cat, no fox, no owl
can reach him.

CONVERSATION.

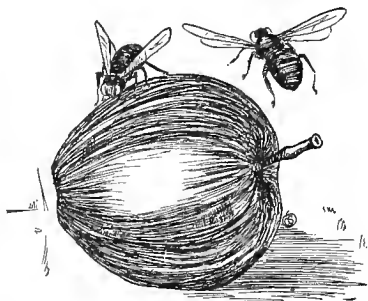
The rabbit. The relation of the rabbit to his protector. Cowper, the poet, and his hares. Compare the happiness of this rabbit with that of the one mentioned in Lesson XXIII.

LESSON XLI.

THE APPLE.

sugar apple is of full

The
apple



is full of sugar.

The apple is full of sugar.

CONVERSATION.

The sugar in the apple. The apple, shape, size, color. The surface. The core. How the apple is held on to the tree. The seeds, how many, why, the direction in which they point. Why the apple "loves cold countries." Use of the apple. Comparison with other fruits. (See "Our Rural Divinity" and "Essay on the Apple," published by Houghton, Mifflin & Co.)

THE APPLE.

The
apple
is full
of sunshine.



The apple is full of sunshine.

CONVERSATION.

What the author means by the apple being full of sunshine. Effect of sunshine on all life. Why there is such a pleasant taste to grape juice, apple juice, currants and other fruit. It is the sunshine. We eat and drink sunshine. Why the ancients worshiped the sun. Effect of sunshine on the color of fruit. Where does the apple get its red cheek?

WORD-BUILDING.

u, f-u-ll, p-u-ll.

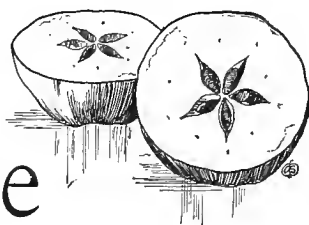
CORNELL UNIVERSITY, THE APPLE. *Ithaca, N. Y.*

rose blooms ripe when
sunshine

The
apple
is a rose
when it blooms



and
a rose



when it is ripe.

CONVERSATION.

Before reading this lesson, the child should have the opportunity of examining the cross section of an apple to find "the rose in its heart," and also the picture of a rose and of an apple blossom. He will discover for himself that the apple belongs to the rose-family. Sentences on the blackboard.

LESSON XLIV.

THE APPLE.

(Review.)

The apple is full
of sunshine,

and it is full of
sugar.



The apple is a rose when it blooms
and a rose when it is ripe.

cǎn	hǐm	tāste	nōt	gēt
catch	will	face	of	yet
apple	is	full	—	when
that	ink	sugar	gō	rīpe
as	—	—	knows	shine
black	shē	squirrel	rose	Bŭn
have	three	blōoms	bold	sunshine

CONVERSATION AND SCIENCE WORK.

Examine cross sections of apples, pears and other fruit. Comparisons.

The child has now had forty-four lessons. Does he know forty-four words? It is sufficient. Has he learned thirty new facts? It is well. But words and facts are externalities. They are not vital. They are not the standard by which to measure. Is the child more alert to see good in everything? Does he love nature better? Is he more kindly? "The life is more than the meat."

LESSON XLV.

THE COW AND THE APPLE.

friend	taste	about	ripe	ones
pick	wakes	need	there	out

The cow
is the friend
of the apple.



The taste of the
apple wakes her up.

No need to pick out
the ripe ones for her.

An apple is an apple.

There is no best about it.

TOPICS FOR DISCUSSION.

Why the cow loves the apple. What else she will help herself to. Let each pupil tell what he has observed of the cow. I have seen bees in the city and birds help themselves to apples. Browsing. What goats browse on. (See "Our Rural Divinity," also Thoreau's essay, "Wild Apples.")

LESSON XLVI.

BIRDS.

birds good apple-tree
crop has

The
apple-
tree
has
a good crop of birds.



TOPICS FOR DISCUSSION.

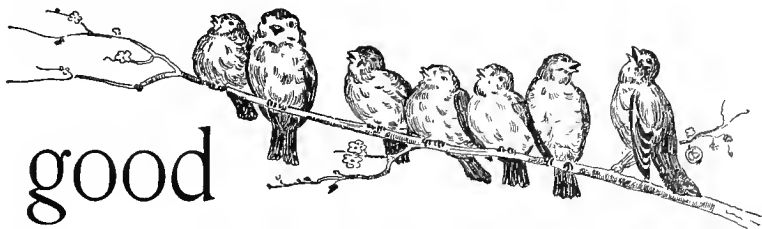
Why an old tree is hollow. What has happened to the inside of the tree. Trees growing from the outside. Use of hollow trees as homes for animals. Review lesson from blackboard, making new sentences from the vocabulary of the last five lessons such as, "The bird is the friend of the apple-tree." Destroys insects. "The apple-tree is the friend of the bird." Gives it a home

LESSON XLVII.

BIRDS.

may apples birds but
most bears trees young

Another



good
crop of birds.



Young trees may be
best for apples.
But an old tree
bears the most birds.

TOPICS FOR DISCUSSION.

The meaning of the writer, "crop of birds," "crop of grain." Why the young tree has more apples. Why the old tree is more easily hollowed out. Birds that live in hollow trees. What kind of beaks.

Reading-lessons should do more than teach reading—they should educate.

WILBUR S. JACKMAN.

REVIEW.

1. A bee saw an apple.
 2. The bee loves the apple for its sugar.
 3. The bee does not like the spider's web.
 4. Red is a squirrel.
 5. Nig is a cat.
 6. The squirrel is afraid of the hawk, the cat, and the boy with a gun.
 7. Red lived in a wall. Red sat in the apple-tree.
 8. The calf is afraid.
 9. The turtle lives in a box.
 10. The rabbit lives on the lookout.
 11. The dog can not catch the squirrel.
 12. Nig is black as ink.
 13. There is sugar in the apple.
 14. The apple-blossom is a rose.
- (What other flower belongs to the rose-family?)
15. Nig knows the taste of the squirrel.
 16. Does she know the taste of the apple?
Why not?
 17. What flower is this in the picture?



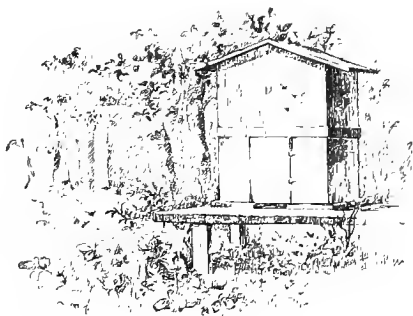
LESSON XLIX.

PEGGY MEL.

Peggy Mel hive lives

Peggy

Mel



lives in a hive.



Peggy Mel lives in a hive.

TOPICS FOR DISCUSSION.

Mel means honey. Peggy Mel is the honey-bee. Difference between honey-bees and others. Queen-bee. Drone. Honey-bee or worker. How bees are kept by farmers. Why Peggy Mel stings. (Independence in thinking is of more importance to the child than word-getting. Let the first consideration be the bee and her happiness, and her life and work. Words come themselves when the child is ready for words. See "An Idyl of the Honey-Bee," published by Houghton, Mifflin & Co.)

LESSON L.

THE BEE.

rude nest

hole ground



The wild bee
lives in a rude nest
or in a hole
in the ground.

The wild bee lives in a nest.

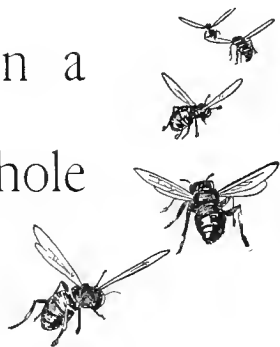
TOPICS FOR DISCUSSION.

Wild bees. How do they live? Why in communities? The bee's love of order, diligence, thrift, economy. Her love of work. Use. The habits of bees that live in hives. It is not necessary that a child should learn each word that he sees the first time that he "goes through" a book any more than it is necessary that he should possess everything he sees when he enters a store. Let him take what he needs and as much or as little as he can assimilate. (See "An Idyl of the Honey-Bee.")

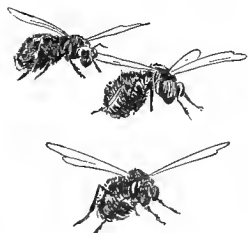
THE WILD BEE.

lives	nest	hole	cells
builds	stores	little	deep
sacks	honey	one	few
young	hope	rich	bee-bread

The wild bee lives in a
rude nest or in a hole
in the ground.



He builds a few deep cells
or sacks in which he
stores a little honey
and bee-bread for his young.



LESSON LII.

PEGGY MEL.



Peggy Mel

lives in a hive.

She is a honey-bee.

Her one hope is
to be rich.



She is an honest citizen.

TOPICS FOR DISCUSSION.

Bees that swarm. Bees that live alone. Why Peggy Mel wants to be rich. Cells, how formed. Bees that make cells. Bees that bring home honey. Bee-bread.

“When you go to nature, bring us good science or else good literature, and not a mere inventory of what you have seen.”

From the “Lovers of Nature.”

LESSON LIII.

PEGGY MEL AND OTHER BEES.

one	put	load	that
day	down	rushed	after
smell	again	gossip	let
something	mad	off	said

One day Peggy Mel rushed into
the hive.



She put down her load of
honey and then rushed
off again like mad.



“Oh, did you see that?” said a
gossip. “Fee, fi, fo, fum!
I smell something! Let’s after!”

TOPICS FOR DISCUSSION.

She had found some apple blossom honey. The gossip of the bees. What they have to say to each other. How they say it. How honey is made. Wax. Use of the bee to flowers, especially clover. What flowers are adapted to honey-making. Why?

mill bee the goes

The
bee
goes to mill.



He will have
new bread now.



The bee goes to mill.

TOPICS FOR DISCUSSION.

What the author means by saying that the bee goes to mill. How millers look. Why their coats are dusty. Yellow pollen dust of flowers. What the bee does with the yellow dust. Bee-bread compared with the bread we eat. (See "The Pastoral Bee," published by Houghton, Mifflin & Co.)

Lesson in word-building on the blackboard.

Ill, mill, miller, fill, till, etc. Sentences containing the words dusty, coat, bee-bread, miller, pollen-dust, and other words, which will occur in the next lesson.

LESSON LV.

THE BEE AT WORK.

home	maid	grist	bread	packs
goes	dairy	kicks	head	rams
golden	makes	with	then	where

The bee goes to mill.
He will have new bread now.
See his dusty coat! See the
golden grist he brings home!
When a bee brings pollen into the
hive he goes to the cell where
he leaves it and kicks it off as
a man kicks off his overalls or boots.
He makes one foot help the other. Then he
walks off and never looks behind him.
Another bee comes along and rams it down
with his head and packs it into the cells
as a dairy maid packs butter in jars.



TOPICS FOR DISCUSSION.

The bee's mill. The yellow grist. Bee-bread. Relation of the bee and other insects to the pollen-dust of the flower. The bee's little "bread-basket."

LESSON LVI.

THE BEE THAT LIVES IN A TREE.

buzzing	first	which	takes	home
when	blow	sharp	come	loud
heart	this	say	they	honey

A bee-tree has a heart of honey.

It takes a sharp eye to see a bee fly
to the tree which is her home.



At the first blow
of the ax the
bees set up a
loud buzzing.

When the other bees come to the tree
they say, "Is this home?"

TOPICS FOR DISCUSSION.

The teacher cannot do better than to read to the children the entire extract in which the author describes the opening of the bee-tree. Remember that the underlying motive of this book is to develop the taste of the naturalist in the child and not to teach him reading for reading's sake merely. Let each child tell what he thinks about the bee which has lost its home, or give his personal interpretation of what he has seen among bees and other insects. (See "An Idyl of the Honey-Bee.")

LESSON LVII.

A MILLION.

Nature makes

a million bees,

a million birds,

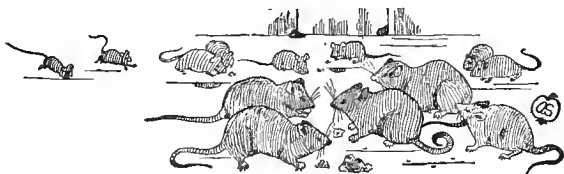
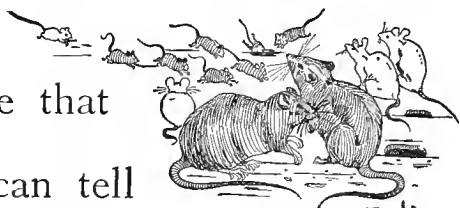
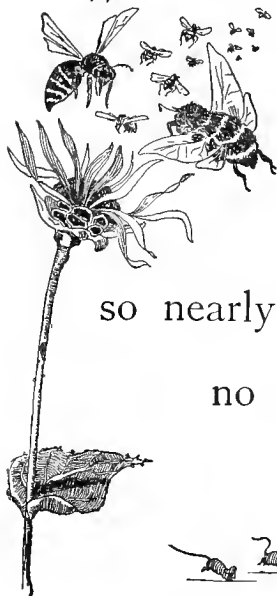
a million rats,

a million mice,

so nearly alike that

no eye can tell

one from the other.



TOPICS FOR DISCUSSION.

It is not likely that a child has any idea of "a million," but he loves the large, the mysterious, the wonderful. The point is to have him judge and compare. Let him tell many things that are so extravagantly numerous that there is no such thing as numbering them. Let him give his own observations and reasons. Probably the bees and birds, and rats, and mice, know one from another. Why?

LESSON LVIII.

LITTLE JOHN BULL.

English little Bull sifts through
sparrow John rowdy dust feathers

The English sparrow is a little
John Bull.



He is a great rowdy.

He sifts dust through his feathers.

It is his way to keep clean.

It often happens that two sparrows
try to get the same mate.

Then there is war.

TOPICS FOR DISCUSSION.

Why "John Bull" bathes in dust. Let the child tell whether or not he has observed the sparrow bathing in dust. In water. Comparisons with other birds. Why "John Bull" fights so much. How he happened to come to America. Of what use is he? Why he is not liked as well as the English lark or the canary. (See "Love and War among the Birds," Houghton, Mifflin & Co.)

LESSON LIX.

THE SONGS OF BIRDS.

fife
sings
song

finch
robin

plays
war

without
love

What
is a bird
without its
song?



The finch plays the fife.

He sings of love but not of war.

The oven bird sings,

teacher, teacher, *teacher*, teacher, teacher!

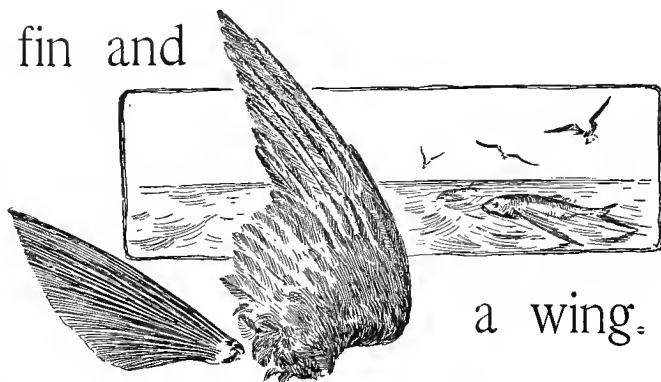
TOPICS FOR DISCUSSION.

Let each pupil tell what he has heard a bird say. The object of the lesson is to arouse the child's mind to activity in making original observations. How many of us know five birds by their songs? When birds sing most heartily. Birds in spring. Early morning.

LESSON LX.
WINGS AND FINS.

fin fish wing what many

A fin and



a wing.

How like a wing is a fin!

How a fish flies through the water!

TEACHER. Nature loves to make many things on the same plan.

TOPICS FOR DISCUSSION.

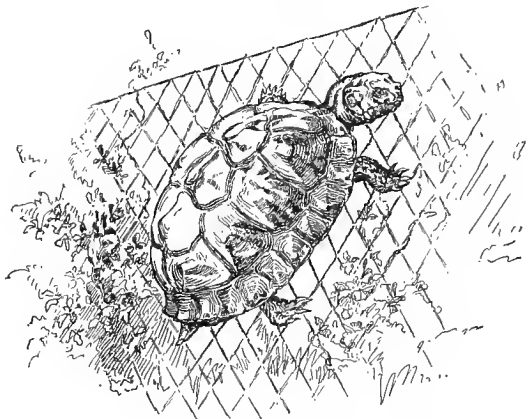
Analogies in nature. The fin is like the wing, how? Compare leaf with flower. How are they alike? Compare the horse's hoof with the hand in a mitten. Construction of a wing. Fin. Adaptation to different elements. Study of a bird from life. A fish. Compare several fishes.

WORD-BUILDING.

ă	ě	ĩ	ǒ	ǔ	ā	ē	ī	ō	ū
ă-t	ě-t	ĩ-t	ǒ-n	ǔ-p	n-ā-m-e	m-ē	f-ī	r-ō-s-e	ū-s-e
c-a-t	l-e-t	s-ĩ-t	n-o-t	c-u-p	s-a-m-e	b-e	f-i-n-e	n-o-s-e	m-u-s-e
r-a-t	p-e-t	b-ĩ-t	g-o-t	s-u-p	d-a-m-e	h-e	m-i-n-e	g-o-es	S-u-s-y
ă	sh	ȳ	ng	ee	ěa	ou	ow	ck	āi
ă-h	sh-e	f-l-ȳ	i-ng	b-ee	r-ea-d	ou-r	c-ow	t-ick	s-a-i-l
f-a-t-h-e-r	sh-ee-p	m-y	s-i-ng	t-r-ee	b-r-ea-d	ou-t	d-ow-n	s-t-ick	r-ai-n
w-h-a-t	sh-i-p	s-l-y	w-i-ng	g-r-ee-n	th-r-ea-d	l-ou-d	t-ow-n	b-r-ick	l-ai-d

LESSON LXI.

A LETTER.



West Park, July 21, 1894.

Dear Ben:

I am glad to hear that your box-turtle can climb a wire fence. I have just found a bird's nest in my vines with a bunch of grapes in it. The grapes grew so fast that they got ahead of the bird and drove her out before she could hatch her eggs. Write again. I like boys.

Yours sincerely,

John Burroughs.

CONVERSATION.

How to write a letter. Date. Address. Body of the letter. Signature. Envelope.

WEEDS.

north	west	ride	travelers	fly
east	walk	great	steal	tramps
south	they	going	swim	hear

Weeds are great travelers.

They are tramps.

They are going east,
west, north, south.

They walk.

They fly. They swim.

They steal a ride.



TOPICS FOR DISCUSSION.

The weeds that grow near the school-house. How weeds fly? Seeds with wings. How birds carry seeds in the mud on their feet. How weeds send their seeds down stream. Why the author calls the weed a tramp. Compare weeds with other flowers. Birds that live on their seeds. (See "Notes by the Way," Houghton, Mifflin & Co.)

LESSON LXIII.

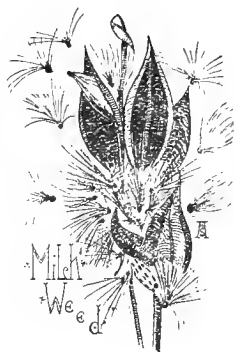
WEEDS.

they	under	across	flood
ground	lots	wind	heart
above	never	rail	hear

Weeds go by rail, by flood,
by wind.

They go under ground.

They go above ground.



They cut across lots.

Weeds never lose heart.

TOPICS FOR DISCUSSION.

Weeds spreading underground. How they crowd other plants. Beauty of their flower. The thistle. The pig-weed. Daisies. Why safest by the roadside.

LESSON LXIV.

AUTUMN.

ragged
dusty

weeds
battles

fight
time

they
road



It is the time for tall
weeds.

They love the road-side.

Here they are safe.

They are ragged
and dusty tramps.

Spring fights her battles
in the fall.

CONVERSATION.

The autumn months. Indian summer. The change of seasons. Changes that come in autumn. (See W. S. Jackman's "Child and Nature.")

Word-building.

a-ll, t-all, f-all, r-ĭng, sp-r-ing, br-ing, th-ing.

LESSON LXV.

THE TROUT.

fish wild is trout
jumps water of out



The trout is a wild fish.

He is nimble and swift.

He lives in
pure spring water.

He jumps out for flies.

CONVERSATION.

The habits of different fish. Size, form, color, food. Why the trout "is wild." Why they can live under water. The trout. Let the child give his own independent observations. (See "How to Go Fishing," Houghton, Mifflin & Co.)

LESSON LXVI.

CATERPILLARS IN THE SNOW.

A VACANT mind, a preoccupied mind, an indifferent mind, sees little of what is transpiring about it. Love, interest, curiosity—it is these that sharpen the eye and ear and make the true observer. There is always something incalculable and unexpected in the life of nature about us.

One winter morning during a northeastern snowstorm I observed along the highway and about the fields numerous little brown worms or caterpillars crawling about on the snow. They were from a half inch to an inch in length. I had never seen the like before. The mercury stood at about freezing and the fresh fallen snow was six or seven inches in depth.

The worms moved very slowly, and so far as I could see, aimlessly. Where did they come from and what did they want? Judging from appearances merely, one would have said they were snowed down. If they were noticed by the country people, that was undoubtedly their inference. But in plowed fields and upon the river where the snow lay clear and smooth for miles upon the ice, there was not a worm to be seen. They were most abundant above old green sward, and near trees. Therefore it was certain that the storm did not bring them.

Over how large an extent of country they made their appearance I do not know, but next day in driving to town I saw a few of them still upon the snow five miles from where I first saw them.

They proved to be the larvae of a nocturnal moth, related to the army worm, with a long impossible name.

They had, of course, come out of the ground, or beneath the leaves or grass upon the ground, but for what purpose or from what cause is a mystery. There is no record of their having before been seen under such circumstances.

As night came on they buried themselves in the snow for better protection against the cold. A week or two later another snowstorm from the same quarter brought them out again in less numbers, but of increased size, and in March I observed a solitary specimen on the snow nearly two inches long. In the spring I expected a visitation from some strange moths that would make havoc with fruit or vegetation, but none such appeared.

The incident was interesting to me as showing what curious and unexpected things are liable to turn up at any time, if one has eyes to see them.

QUEER CATERPILLARS.

storm bring snow little caterpillar

One morning in winter I saw many
little caterpillars in the snow.

They were from a half inch to an
inch in length.

I had never seen the like before.

They moved slowly.

The storm did not bring them.

Where did they come from?

What did they want?

CONVERSATION.

The caterpillar. Where it makes its winter home. Why the writer was surprised to find these caterpillars in the snow.

LESSON LXVIII.

QUEER CATERPILLARS.

snow	slept	storm	caterpillars
ground	numbers	queer	turning

At night the caterpillars made their
bed in the snow.

They had come out of the ground
and from under the leaves and
grass.

They were in great numbers near
trees.

Queer things are turning up all the time
if one has eyes to see them.

NOTE. — Let the child study every phase of nature which presents itself. Seize on the "living present" as well as what is stored up in classified science.

JOHN BURROUGHS.

LESSON LXIX.

ICE.

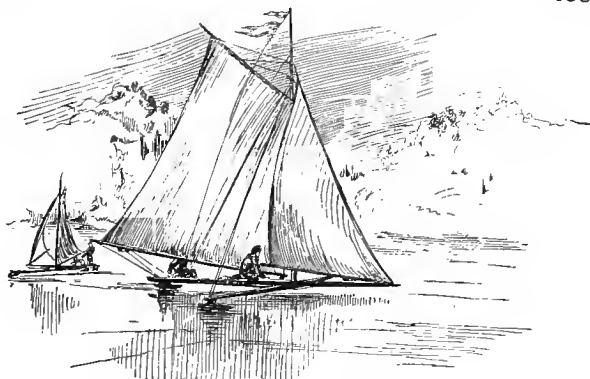
crop
becomes

early
shaky

skates
sail

season
coverlid

sun-struck
ice-boat



The best crop of ice is an early crop.
Late in the season the ice is apt to
get sun-struck. No sooner has a
river pulled his icy coverlid over
him than he begins to snore.
An ice-boat is a sail on skates.

TOPICS FOR DISCUSSION.

Formation of ice. Different forms of crystallization. Ice houses. The gathering of ice. The snoring of the river. Artificial ice. Uses of ice.

“Real observation begets warmth and joy in the mind. To see things as they lie about you and enumerate them is not observation; but to see the significant things, to seize the quick movement and gesture, to disentangle the threads of relation, to know the nerves that thrill from the cords that bind or the typical and vital from the commonplace and mechanical — that is to be an observer.”

From the “Lovers of Nature.”

LESSON LXX.

SALT.

Americans	among	follows	eager	divide
deposited	pail	saline	gnaws	smack

If you want to know how good salt is you must see a cow eat it. She gives the true saline smack.

How she dwells upon it! How she gnaws the grass and licks the stones where it has been deposited!

When the farm-boy takes a pail of salt to the fields the eager herds follow him.

They push their noses into the pail.

They give him no time to divide it.

We Americans are great eaters of salt.

But we must drink the salt air of the sea to get it at first hand.

TOPICS FOR DISCUSSION.

Crystallization. Salt crystals compared with ice crystals and sugar crystals. Why the sea is salty. Salt deposits or mines. Manufacture of salt. Relation of salt to health. Preserving quality of salt. Effect of salt on ice in melting it.

Madame Ragozin says that in Texas on the ranches they give their cattle large blocks of salt and that the cows come and stand in rows to lick it. She has seen a cow teach her calf to love salt by licking the block of salt and then licking the calf's nose.

LESSON LXI.

DRUMS AND DRUMMERS.

spring	drum	sitting	barn
utters	drummer	ridge	loud



IN A HIGHER KEY.

The high-hole is a drummer.

He utters his long loud spring call,
whick — whick — whick — whick,
and then begins to rap with his
beak.

I have seen him drum sitting on the
ridge of a barn.

The high-hole is a woodpecker.

CONVERSATION.

The noises made by birds. What they use as drums. How they drum with their wings. (See Story of Prince Red Cap in "Stories from Plato and other Classic Writers," Ginn & Co.)

NOTE. This lesson is adapted from "Winter Neighbors," an essay in which are many stories which could hardly fail to create habits of observation in the child.

LESSON LXXII.

DRUMS AND DRUMMERS.

(Continued.)

once	shift	position	inch
would	hour	wood-pecker	stub
knot	high	limb	wished

I once saw a wood-pecker at his drum.
He would drum for an hour at a time.
His drum was the stub of a dry limb.
How fast his head would go when
drumming!

When he wished to change the key, he
would shift his position an inch or two
to a knot, which gave a high shrill note.

When I climbed up to see his drum,
the bird was much put out.

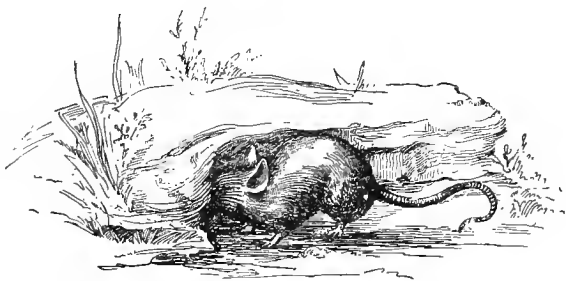
He flew at me with a sharp note to ask
what my business was with his drum.

The wood-pecker was drumming for a
mate. After drumming some weeks
his mate came.

LESSON LXXIII.
LIFE UNDER A STONE.

stone	cells	good	water
roof	found	better	fire
proof	makes	lone	field

A stone
makes
a good
roof.



It is water-proof and fire-proof.

The field-mouse wants no better
place to nest than under a
large, flat stone.

I found the nest of a lone bee
under a stone. It had four cells.

TOPICS FOR DISCUSSION.

Creatures that live under stones. Little David tells me that he has found a beetle under a stone which "makes smoke" when discovered. The explosive beetle. What have you found under a stone? Mice. Ants. Worms. Bugs. Bees. Lizards. Frogs. Compare with animals that live in dry places. (See *A Lone Queen* in "Notes by the Way," Houghton, Mifflin & Co.)

LESSON LXXIV.

BUDS.

April	swell	fancy
bud	swelling	eye
budding	food	begin



April is the
time to go
budding.

A swelling bud is food
for the fancy
and food for the eye.

Some buds begin to glow
as soon as they begin to swell.

TOPICS FOR DISCUSSION.

Spring buds. Winter buds. Have the children found any winter buds? Leaf buds. Flower buds. What is the difference between the two? Are buds green or pink? Scales. Use of bud scales. The "varnish" secreted by buds. Its use. Little David brought me some cherry, apple, and chestnut branches in January and they have blossomed out in winter. (See "A Spring Relish," Houghton, Mifflin & Co.)

LESSON LXXV.

BUDS.

scales	become	flush	sweat
color	delicate	effort	pretty
change	pink	keep	their
brought	into	glow	many

REVIEW.

April is the time to go budding.

A swelling bud is food for the fancy
and food for the eye.

Some buds begin to glow as soon as
they begin to swell.

The bud scales change color and become
a delicate pink.

They blush as if the effort to "keep in"
brought the blood into their faces.

Many buds begin to sweat as well as
to glow.

CONVERSATION.

Why artists like to paint "spring scenes." Odor of buds. Why they are sticky.
Let the child report his own observations of buds he has seen at any time.

LESSON LXXVI.

A COLD LUNCH.

“The north wind doth blow,
And we shall have snow,
And what will the robin do then?
Poor thing!”

winter
snows
three
months

crows
else
frozen
green

porch
filched
bones
which

worse
flesh
depend
there



It was a cold winter.
There were deep snows for three months.
The fox ate frozen apples.
The crows had little else than frozen
apples for three weeks.

CONVERSATION.

Birds in winter. Where they go. How they get along when they stay where the snows are deep. (See “Hard Fare,” Houghton, Mifflin & Co.)

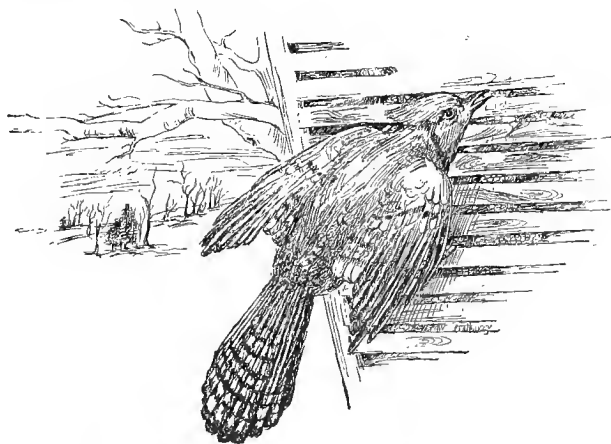
LESSON LXXVII.

A COLD LUNCH.

(Continued.)

lost	chestnuts	carry	hunter
these	here	knot	told
neighbor's	stolen	wanted	gizzards
cinders	ash-heap	except	found

They grew bold and came to my porch
and filched bones which Lark the
dog had left.



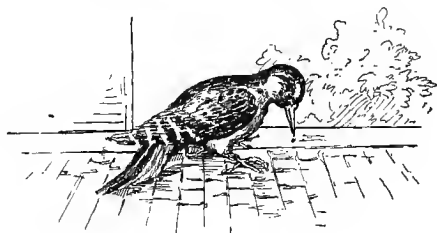
The jays had a worse time than the crows.
They do not eat flesh or fish. They
depend upon nuts.

A troop of them came to my ash-heap one morning. They found little except cinders for their gizzards.

May be that was what they wanted.

They had stolen corn all winter from my neighbor's corn-crib.

An old hunter told me he had seen jays hide nuts in a knot-hole in a tree.



I have seen jays carry off chestnuts and hide them here and there upon the ground.

When the snows come these nuts are lost to them.

CONVERSATION.

Getting cinders for their gizzards. What use has the bird for cinders? Comparison of methods of digesting food,—the cow with her stomachs,—the squirrel's method of eating and digesting,—process of mastication and so forth.

LESSON LXXVIII.

A REVIEW.

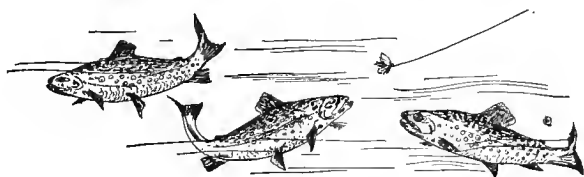
What does sunshine do to the apple?

What flower is like the rose?

What lives in an old tree?

Where does the wild bee live?

What does the bee do with pollen-dust?



What is a weed?

Why does the wood-pecker drum?

What lives under a stone?

When do buds come?

What do birds say?

What do birds eat in the winter?

Where does the fish lay its eggs?

What can you see in the picture?

LESSON LXXIX.

MY SQUIRREL.

up	then	name	laugh	around
nut	when	lady	squirrel	head

My little flying squirrel is very tame.

He loves to hide his food in my pocket.

There is a doll which has a nut for a head.

It wears a cap and a silk dress.

We try to make him think it is an old lady.

He puts his paws around her neck and tries to eat her up.

Then everybody laughs and says, "He knows a nut when he sees it."

LESSON LXXX.

APRIL NOTES.

eat	killed	fear	blue	winter
eaten	millions	year	true	this

I have seen only three blue-birds
this year.

I fear that millions of them have
died.

It has been a cold winter in the
South.

The cold must have killed off their
food.

It is very sad.

We shall miss these blue flashes
of light from the trees.

We shall be eaten up with bugs.

CONVERSATION.

It is the month of May. The author has just been telling a large party of us about the birds. Why had we not observed them ourselves. What birds have you noticed? Have you seen any blue-birds this year? Did you see any last year?

LESSON LXXXI.

raise	ought	water	rock	middle
drain	bought	swamp	rocks	celery

I have just bought a muck-swamp.

It is on a hill.

It has a wall of rocks on all sides.

It has a big rock in the middle.

I will give the swamp to my
little boy for a farm.

He can drain off the water
and raise a good crop
of celery.

CONVERSATION.

How farmers drain wet land. The color and quality of soil in a muck-swamp.

LESSON LXXXII.

A LETTER.

Boston, September 1, 1895.

My dear Mr. Burroughs,

You have said a good word for your dog, Lark, and I must tell you a true story about my old Czar. He was one of the finest St. Bernards I ever saw. He had as true a heart as ever human being had. He came to us when he was about a year old and my little girl who was five or six years old took him for her playmate. One time the dog wanted to go with our man to the fields. She held on to him with all her might, but he broke away and was off with the man. She called out at the top of her voice: "Come here, Czar." But he ran on about two rods when she began to cry. The dog heard her and stopped short. He turned and came back to her. It seemed the most human act I ever saw in

a dog. Czar and the cats were great friends. There was one that used to come and lie between his paws. If it was cold she would come and jump up on his back. When he sat up on his fore-paws she would get under his chin, on one side or the other and he would move his head to give her room.

I think you will say that my Czar was another dog of gentle heart.

Yours truly,

Friend Grant.

LESSON LXXXIII.

A REVIEW.

Where will birds hide things?

What will they hide?

Where is the bee all winter?

How did the squirrel know the nut?

A tame squirrel will hide a nut in any
corner. Why?

What animal do you love best?

Which would you rather have, a tame
fox, a squirrel, a dog, or a cat?

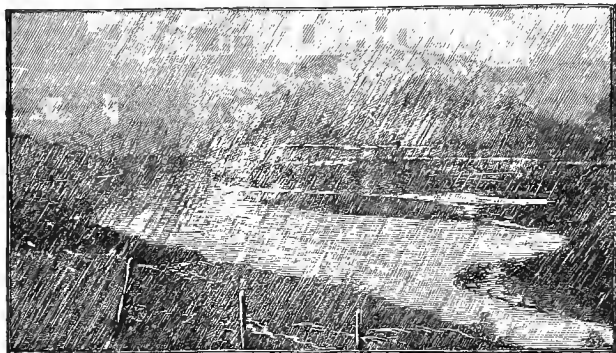
In what word can you find long \bar{o} ?
short \check{a} ?

What animal makes the sound you
hear in a? \bar{e} ? m? \bar{o} ? s? eu?

LESSON LXXXIV.

THE RAINSTORM.

arm	move	field	cross	walk
army	moves	fields	across	walking



See the rain walk across
the field!

It moves like a great army.

CONVERSATION.

There is not probably in any writings, a better interpretation of "the mood Nature begets in the mind" on beholding a heavy storm advancing, than in the brief quotation above. Let the children tell how storms impress them. Why storms "walk" or "move like an army."

LESSON LXXXV

THUNDER.

clap

shake

clouds

thunder



How a clap of
thunder will shake
down the rain!

It gives the clouds
a smart rap.

It makes the drops let go.

TOPICS FOR DISCUSSION.

What thunder really is. Lightning. Tell the story of Jupiter and the theory of people in ancient times. Effect of thunder on liquids—driving particles together. Effect on milk. Lightning rods. Safe places during thunder storms. Franklin and his experiments in electricity.

LESSON LXXXVI.

NOVEMBER.

fish	themselves	crickets	spiders
will	eggs	winter	stream
until	lain	ready	black
Rip Van Winkle	their	getting	down



The Rip Van Winkles have lain down
for their naps.

The toads and turtles have buried them-
selves.

The skunk is in his hole.

The black bear will wait until the snow comes.

He does not like the looks of his big tracks in the snow.

The ants, bees, crickets, spiders, and flies are getting ready for their winter's nap.

But the fish go up stream to lay eggs.

CONVERSATION.

The story of Rip Van Winkle. (See Irving's "Sketch Book," Ginn & Co.) Myth of Proserpine and her long winter's sleep. How the butterfly sleeps all winter. Cocoons. How the bear hibernates. The turtle. Why? Other hibernating creatures.

"The secret of observing nature is first a love of her work ; and second, an alertness and intentness of the mind in one direction. The mind must be like a sensitive plate, quick to receive impressions. The eye does not always see what is in front of it. Indeed, it might almost be said, it sees only what is back of it, in the mind."

From "Observations of Nature."

WORD-BUILDING.

ō, h-ō, h-o-le, sn-ō-w, g-ō.

ĩ, ĩ-n, w-ĩn, w-ĩn-ter, w-ĩn-d, w-ĩn-dow.

1
2
3
4

Bureau Nature Study,

CORNELL UNIVERSITY.

Ithaca, N. Y.

ONE POEM A MONTH

TO BE MEMORIZED

FROM
OPEN SESAME
AND
THE CLASSIC PRIMER BY MISS STICKNEY

I.

LITTLE BIRDIE.

WHAT does little birdie say,
In her nest at peep of day?
“Let me fly,” says little birdie,
“Mother, let me fly away.”

Birdie, rest a little longer,
Till the little wings are stronger.
So she rests a little longer,
Then she flies away.

— — — — —

What does little baby say,
In her bed at peep of day?
Baby says, like little birdie,
“Let me rise and fly away.”

Baby, sleep a little longer,
Till the little limbs are stronger.
If she sleeps a little longer,
Baby, too, shall fly away.

ALFRED TENNYSON.

II.

PIPPA'S SONG.

THE year's at the Spring;
The day's at the Morn;
Morning's at seven;
The hill-side's dew-pearled;
The lark's on the wing;
The snail's on the thorn;
God's in his heaven —
All's right with the world.

ROBERT BROWNING

III.

TO-DAY.

So here hath been dawning
 Another blue day;
Think, wilt thou let it
 Slip useless away?

Out of Eternity
 This new day is born;
Into Eternity,
 At night, will return.

Behold it aforetime
 No eye ever did;
So soon it forever
 From all eyes is hid.

Here hath been dawning
 Another blue day;
Think, wilt thou let it
 Slip useless away?

THOMAS CARLYLE

IV.

MY LITTLE DOG.

I HAD a little doggy, that used to sit and beg ;
But doggy tumbled down the stairs and broke his little leg.
Oh! doggy, I will nurse you, and try to make you well,
And you shall have a collar with a pretty little bell.

Ah! doggy, don't you think you should very faithful be
For having such a loving friend to comfort you as me?
And when your leg is better, and you can run and play,
We'll have a scamper in the fields, and see them making hay.

But, doggy, you must promise, and mind your word you
keep,
Not once to tease the little lambs, or run among the sheep;
And then the yellow chicks, that play upon the grass—
You must not even wag your tail to scare them as you pass.

MOTHER GOOSE

V.

THE LITTLE PLANT.

IN the heart of a seed
 Buried deep, so deep,
A dear little plant
 Lay fast asleep.

“Wake!” said the sunshine,
 “‘And creep to the light.’”
“Wake!” said the voice
 Of the raindrops bright.

The little plant heard
 And it rose to see
What the wonderful
 Outside world might be.

KATE L. BROWN.

VI.

I'LL TRY.

Two robin red-breasts built their nest
 Within a hollow tree ;
The hen sat quietly at home,
 The cock sang merrily ;
And all the little ones said,
 “ Wee-wee ! wee-wee ! wee-wee ! ”

One day the sun was warm and bright,
 And shining in the sky ;
Cock Robin said, “ My little dears,
 ’ Tis time you learned to fly.”
And all the little ones said,
 “ I’ll try ! I’ll try ! I’ll try ! ”

I know a child, and who she is
 I’ll tell you by and by ;
When mamma says, “ Do this,” or “ that,”
 She says, “ What for ? ” and “ Why ? ”
She’d be a better child by far
 If she would say, “ I’ll try.”

SPEAK GENTLY.

SPEAK gently ; it is better far
 To rule by love than fear ;
Speak gently ; let no harsh words mar
 The good we might do here.

Speak gently to the little child ;
 Its love be sure to gain ;
Teach it in accents soft and mild ;
 It may not long remain.

Speak gently to the aged one,
 Grieve not the care-worn heart ;
The sands of life are nearly run :
 Let such in peace depart.

Speak gently, kindly, to the poor ;
 Let no harsh word be heard :
They have enough they must endure,
 Without an unkind word.

Speak gently to the erring ; know
 They may have toiled in vain :
Perhaps unkindness made them so —
 Oh, win them back again !

THE PIPER AND CHILD.

PIPING down the valleys wild,
Piping songs of pleasant glee,
On a cloud I saw a child,
And he, laughing, said to me:

“Pipe a song about a lamb.”
So I piped with merry cheer.
“Piper, pipe that song again.”
So I piped; he wept to hear.

“Drop thy pipe, thy happy pipe;
Sing thy songs of happy cheer.”
So I sang the same again,
While he wept with joy to hear.

“Piper, sit thee down and write,
In a book that all may read.”
So he vanished from my sight,
And I plucked a hollow reed,

And I made a rural pen;
And I stained the water clear;
And I wrote my happy songs
Every child may joy to hear.

IX.

THREE WORDS OF STRENGTH.

THERE are three lessons I would write,
Three words, as with a burning pen,
In tracings of eternal light,
Upon the hearts of men.

Have Hope. Though clouds environ round,
And gladness hides her face in scorn,
Put off the shadow from thy brow:
No night but hath its morn.

Have Faith. Where'er thy bark is driven,—
The calm's disport, the tempest's mirth,—
Know this: God rules the hosts of heaven,
The inhabitants of earth.

Have Love. Not love alone for one,
But man, as man, thy brother call;
And scatter, like a circling sun,
Thy charities on all.

SCHILLER.

X.

IN works of labor, or of skill,
I would be busy too,
For Satan finds some mischief still
For idle hands to do.

WATTS

XI.

WHENE'ER a duty waits for thee,
With some judgment view it,
And never idly wish it done,—
Begin at once and do it.

XII.

FOR every evil under the sun
There's a remedy, or there's none;
If there is one, try and find it—
If there is n't, never mind it.

SUPPLEMENTARY FOR THE TEACHER.

LOVERS OF NATURE.

DR. JOHNSON said he had lived in London so long that he had ceased to note the changes of the seasons. But Dr. Johnson was not a lover of nature. Of that feeling for the country of which Wordsworth's poetry, for instance, is so full, he probably had not a vestige. Think of Wordsworth shut up year in and year out in the city! That lover of shepherds, of mountains, of lonely tarns, of sounding waterfalls,

“Who looked upon the hills with tenderness,
And made dear friendships with the streams and groves.”

Dr. Johnson's delight was in men and in verbal fisticuffs with them, but Wordsworth seemed to have loved nature more than men; at least he was drawn most to those men who lived closest to nature and were more a part of her. Thus he says he loved the shepherds, “dwellers in the valleys,”

“Not verily
For their own sakes, but for the fields and hills
Where was their occupation and abode.”

Your real lover of nature does not love the merely beautiful things which he culls here and there; he loves the earth itself, the faces

of the hills and mountains, the rocks, the streams, the naked trees no less than the leafy trees, a plowed field no less than a green meadow. He does not know what it is that draws him. It is not beauty, any more than it is beauty in his father or mother that makes him love them. It is "something far more deeply interfused." Something native and kindred that calls to him. In certain moods how good the earth, the soil, seems! One wants to feel it with his hands and smell it — almost taste it. Indeed, I never see a horse eat soil and sods, without a feeling that I would like to taste it too. The rind of the earth, of this "round and delicious globe" which has hung so long upon the great Newtonian tree, ripening in the sun, must be sweet.

I recall an Irish girl lately come to this country, who worked for us, and who, when I dug and brought to the kitchen the first early potatoes, felt them, and stroked them with her hand, and smelled them, and was loth to lay them down, they were so full of suggestion of the dear land and home she had so lately left. I suppose it was a happy surprise to her to find that the earth had the same fresh, moist smell here that it had in Ireland, and yielded the same fresh crisp tubers. The canny creature had always worked in the fields, and the love of the soil and of homely country things was deep in her heart. Another emigrant from over the seas, a laboring man confined to the town, said to me in his last illness, that he believed he would get well if he could again walk in the fields. A Frenchman who fled the city and came to the country, said, with an impressive gesture, that he wanted to be where he could see the blue sky over his head.

These little incidents are but glints or faint gleams of that love of nature to which I would point an affection for the country itself, and not a mere passing admiration for its beauties. A

great many people admire nature ; they write admiring things about her; they apostrophize her beauties; they describe minutely pretty scenes here and there; they climb mountains to see the sun set, or the sun rise, or make long journeys to find waterfalls, but nature's real lover listens to their enthusiasm with coolness and indifference. Nature is not to be praised or patronized. You cannot go to her and describe her; she must speak through your heart. The woods and fields must melt into your mind, dissolved by your love for them. Did they not melt into Wordsworth's mind? They colored all his thoughts; the solitude of those green, rocky Westmoreland fells broods over every page. He does not tell us how beautiful he finds nature and how much he enjoys her, he makes us share his enjoyment.

There are serious drawbacks in some of the books of the lamented Richard Jeffries; there is too minute description of phases and objects in nature *from the outside*. The page is often wearisome from the long and careful enumeration of details. There is a deficiency of imagination in his style. He is descriptive, but rarely interpretative; the mood, the frame of mind which nature herself begets, he rarely imparts to us. Of course what we love in nature is some suggestion of ourselves, of the human spirit, and no labored description, or careful enumeration of details will bring us to this.

“ Nor do words,
Which practiced talent readily affords,
Prove that her hand has touched responsive chords.”

The writer is trying to evoke what is not there, and gives us what his eye sees without, instead of the impression the object makes within. Of course the method here hinted at, is not the

method of science, but it is the method of literature, of art, the only method that can give us whole and fresh results. The passion for nature is by no means a curiosity about her, or an itching to portray certain of her features ; it lies deeper and is probably a form of, or closely related to, our religious instincts. When you go to nature, bring us good science or else good literature, and not a mere inventory of what you have seen. One demonstrates, the other interprets.

In the Journals of Thoreau published since his death, there is a good deal of mere descriptive writing that is tedious. This is not observation, though it is constantly regarded as such. Observation is selective and vital. A real observation begets warmth and joy in the mind. To see things in detail as they lie about you and enumerate them is not observation ; but to see the significant things, to seize the quick movement and gesture, to disentangle the threads of relation, to know the nerves that thrill from the cords that bind, or the typical and vital from the commonplace and mechanical — that is to be an observer. * * *

Moralizing about nature is tedious enough, and unless the piece has some moral or emotional background it does not touch us. To describe a thing for the mere sake of describing it, to make a dead set at it like a reporter, whatever may be the case in painting, it will not do in literature. The object must be informed with meaning, and to do this the creative touch of imagination is required. * * *

In literature, never nature for her own sake, but for the sake of the soul which is over and above all.

JOHN BURROUGHS in *The Chautauquan*.

Cornell University Library

THE BEST TEXT-BOOKS
FOR COMMON SCHOOLS

FRYE'S GEOGRAPHIES

The most advanced views of teaching
geography harmonized

WENTWORTH'S ARITHMETICS

Unsurpassed in arrangement, method,
and accuracy

PRINCE'S ARITHMETIC BY GRADES

Sound in method, satisfactory to teachers,
attractive to pupils

MONTGOMERY'S AMERICAN HISTORIES

The leading events of American history
with their causes and their results
distinctly and graphically shown

BLAISDELL'S PHYSIOLOGIES

True, scientific, practical, teachable

TARBELL'S LESSONS IN LANGUAGE

Language and grammar harmonized

STICKNEY'S READERS

A series of carefully-graded and
thoroughly-tested reading books

GINN AND COMPANY'S WRITING BOOKS

A neat, legible hand
acquired with ease and rapidly

THE EDUCATIONAL MUSIC COURSE

Pre-eminently a natural and rational course
practical, systematic, progressive

GINN & COMPANY PUBLISHERS